SANTA CRUZ BIOTECHNOLOGY, INC.

CYP2J9 siRNA (m): sc-142708

BACKGROUND

The cytochrome P450 proteins (CYPs) are monooxygenases that catalyze reactions involved in both drug metabolism and in the synthesis of cholesterol, steroids and other lipids. P450 enzymes are classified into subfamilies based on sequence similarities. CYP2J9 (cytochrome P450, family 2, subfamily j, polypeptide 9), is a 502 amino acid protein belonging to the cytochrome P450 family, and is enzymologically distinct from other P450s. Found at high levels in brain, CYP2J9 is most abundantly expressed in cerebellar Purkinje cells, and may play an important role in the development of the brain. CYP2J9 may also play a role in the biosynthesis of arachidonic acid to 19-hydroxyeicosatetraenoic acid (HETE), an eicosanoid that inhibits activity of P/Q-type Ca^{2+} channels. The gene encoding CYP2J9 maps to mouse chromosome 19 A; no human homolog to CYP2J9 has been characterized.

REFERENCES

1. Moran, J.H., et al. 2000. Analysis of the cytotoxic properties of linoleic acid metabolites produced by renal and hepatic P450s. Toxicol. Appl. Pharmacol. 168: 268-279.
2. Qu, W., et al. 2001. Cytochrome P450 CYP2J9, a new mouse arachidonic acid ω-1 hydroxylase predominantly expressed in brain. J. Biol. Chem. 276: 25467-25479.
3. Church, D.M., et al. 2009. Lineage-specific biology revealed by a finished genome assembly of the mouse. PLoS Biol. 7: e1000112.
4. Adachi, T., et al. 2011. Modulation of cytochrome P450 gene expression in primary hepatocytes on various artificial extracellular matrices. Biochem. Biophys. Res. Commun. 413: 577-581.
5. Koh, K.H., et al. 2011. Altered cytochrome P450 expression in mice during pregnancy. Drug Metab. Dispos. 39: 165-169.
6. Skarnes, W.C., et al. 2011. A conditional knockout resource for the genome-wide study of mouse gene function. Nature 474: 337-342.

CHROMOSOMAL LOCATION

Genetic locus: Cyp2j9 (mouse) mapping to 4 C5.

PRODUCT

CYP2J9 siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CYP2J9 shRNA Plasmid (m): sc-142708-SH and CYP2J9 shRNA (m) Lentiviral Particles: sc-142708-V as alternate gene silencing products.

For independent verification of CYP2J9 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-142708A, sc-142708B and sc-142708C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

CYP2J9 siRNA (m) is recommended for the inhibition of CYP2J9 expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CYP2J9 gene expression knockdown using RT-PCR Primer: CYP2J9 (m)-PR: sc-142708-PR (20 µl, 544 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.